

**EXAMPLE PROCEDURE FOR COLLECTING BULK WATER  
SAMPLES FOR LABORATORY FILTRATION AND  
*CRYPTOSPORIDIUM* ANALYSIS**

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# Example Procedure for Collecting Bulk Water Samples for Laboratory Filtration and *Cryptosporidium* Analysis

## 1.0 Required Materials

Check to make sure the following materials are available before collecting sample:

- ☐ Several pairs of new, powder-free latex gloves (Lab Safety Supply, cat. number 16285XL, or equivalent)
- ☐ Sample collection form
- ☐ 10-L cubitainer (Eagle Picher cat. number 360-2.5, or equivalent)
- ☐ Sample number label
- ☐ Waterproof pen
- ☐ Cooler, approximately 34-quart (Coleman, model number 5281A703, or equivalent)
- ☐ Two large plastic trash bags
- ☐ Two 8-lb. bags of ice
- ☐ Four 13 × 18 inch ziplock bags
- ☐ Strapping tape
- ☐ Two, self-adhesive plastic airbill sleeves
- ☐ Airbill for shipment

## 2.0 Collecting the Sample

- 2.1 Put on a pair of powder-free latex gloves.
- 2.2 Turn on the influent tap and flush the system by allowing source water to flow for 2 to 3 minutes or until any debris that has accumulated has cleared or the turbidity in the water becomes visibly uniform.
- 2.3 While the system is flushing, record the following information on the sample collection form:
  -  Public water system (PWS) name
  -  PWS address
  -  Sampler name
  -  Sample ID (optional)
  -  Public Water System Identification (PWS ID) number
  -  Public Water System facility ID number
  -  Facility name
  -  Sample collection point ID
  -  Sample collection point name
  -  Sample collection date

- ✎ Source water type (optional [but required for *E. coli* sample forms])
  - ✎ Requested analysis (circle *Cryptosporidium* field sample for routine monitoring sample; circle both “*Cryptosporidium* field sample” and “*Cryptosporidium* matrix spike” sample if you are sending an additional sample with the monitoring sample for matrix spike analysis)
- 2.4 After the system has been flushed, any optional water quality parameters such as temperature, pH, and/or turbidity should be measured now.
- 2.5 Fill the 10-L cubitainer. If both a field sample and a matrix spike sample are being collected, fill one immediately after the other. Record the following information on the sample collection form:
- ✎ Sample collection time
  - ✎ Comments to laboratory, if needed
- 2.6 Immediately following sample collection, tighten the cubitainer cap(s) and place the cubitainer(s) in a refrigerator to chill prior to packing the shipping cooler for shipment. If no refrigerator is available, and the sample will not be shipped for several hours, place the cubitainer(s) in the shipping cooler with ice to chill, and replace the ice before shipping.
- Note!** Method 1622/1623 requires that the temperature of the sample upon arrival at the laboratory must be <10°C (but not frozen), and the laboratory must have the filter processed within 96 hours of sample collection. If the sample temperature and holding time requirements are not met, then the sample is invalid and must be recollected.

### 3.0 Packing the Sample

- 3.1 Insert two large plastic trash bags into the shipping cooler to create a double liner. Immediately before packing the cooler, place an 8-lb bag of ice into each of the two plastic, ziplock bags. To prevent leaks place each ice pack into an additional ziplock bag. Seal each ziplock bag, expelling as much air as possible, and secure top with tape.
- Note!** Shipping companies may delay sample shipments if leakage occurs. Double liners and ziplock bags around ice will prevent leakage and delays.
- 3.2 Place the chilled cubitainer upright into the center of the lined cooler. Place the two ice packs into the cooler, one on each side of the cubitainer.
- 3.3 If you will be monitoring sample temperature during shipment, place in the cooler the temperature monitoring device (e.g., extra sample bottle for measuring sample temperature upon receipt at the laboratory, thermometer vial, or Thermochron™ iButton). Seal each liner bag by twisting top of bag and tying in a knot.
- 3.4 Peel the backing off one of the plastic airbill sleeves and attach the sleeve to the inside of the cooler lid.
- ✎ Sign and date the sample collection form.
- Fold the completed sample collection form, and place it inside the plastic sleeve.
- 3.5 Close the cooler lid, seal the horizontal joints with duct tape, and secure the lid with tape by taping the cooler at each end, perpendicular to the seal.

**Note!** Shipping companies may delay sample shipments if leakage occurs. Be sure to seal the cooler joints.

- 3.6 Peel the backing off of the second airbill sleeve and attach the sleeve to the outside of the cooler lid. Complete the shipping airbill with the laboratory address, billing information, sample weight, and shipping service. Remove the shipper's copy of the airbill, and place the remainder of the airbill inside the plastic sleeve.

#### **4.0 Shipping and Tracking**

- 4.1 Ship samples on the day of collection and use a reliable shipping service for next-day delivery. If samples are not shipped the day of collection, the sample must be maintained at  $<10^{\circ}\text{C}$  (but not frozen) by chilling in a refrigerator or cooler filled with ice.
- 4.2 Contact the laboratory to notify them of the sample shipment. Request that the laboratory contact you the next day if the sample is not received.
- 4.3 Using the airbill number on the shipper's copy of the airbill, track the sample shipment using the shipping company's web page or by contacting the shipping company over the phone.
- 4.4 If problems are encountered with the shipment, communicate with the shipping company to resolve, and update the laboratory regarding the status of the shipment.